

AMENDMENTS TO THE DRAWINGS:

Replacement drawings are submitted for each of Figures 1A-5 labeling these figures as Prior Art.

REMARKS

The application has been amended to place the application in condition for allowance at the time of the next Official Action.

The specification has been amended to make editorial changes therein.

Replacement drawings are submitted for each of Figures 1A-5 labeling these figures as Prior Art. The above change is the only change and is believed not to introduce new matter.

Claims 17-28 and 33-37 were previously pending in the application. Claims 26 and 35 are canceled, leaving claims 17-25, 27, 28, 33, 34, 36 and 37 for consideration.

Amending independent claims 17 and 23 to include the subject matter of claims 26 and 35 is believed to obviate the rejection of claims 17-25 and 33-34 under 35 USC §102(b) as being anticipated by KURITA U.S. Publication No. 2002/0135057.

Claims 26, 27, 35 and 36 were rejected under 35 USC §103(a) as being unpatentable over KURITA in view of KOYAMA U.S. Publication No. 2001/0053598. That rejection is respectfully traversed.

The Official Action recognizes that KURITA does not disclose that the projection electrode has a sharp tip. KOYAMA is offered for this feature with the Official Action concluding that it would have been obvious to modify KURITA in view of

KOYAMA to provide a projection electrode with a sharp tip in order to have a larger bonding area.

However, the proposed combination of references is believed to be untenable for at least the following reasons.

First, KOYAMA actually does not disclose all of the features attributed to it by the Official Action.

Paragraphs [0057] and [0059] of KOYAMA disclose a pressing portion 24 that forms tip portion 14. The pressing portion is a frustum of a cone, i.e., a cone with the sharp point cut off to form a tip portion in the form of a frustum of a cone as seen in Figure 3 of KOYAMA. KOYAMA does not disclose a tip portion having a sharp point.

Second, the rationale set forth in the Official Action does not support the legal conclusion of obviousness, in that the tip portion of KOYAMA in fact does not increase the bonding area.

The Official Action cites paragraph [0014] of KOYAMA as teaching a sharp tip for providing a larger bonding area. However, this passage refers to the increased bonding area caused by grooves, such that a bonding area including a central bonding area 42 and two outside bonding areas 44 are created as seen in Figure 4B of KOYAMA.

Thus, it is the outer peripheral portion of the ball shape formed by the groove that can be used as a bonding area to increase the bonding area. The conventional ball electrode at 2 as taught by KURITA does not include this outside peripheral

bonding area, and rather includes only a central bonding area. Making this central bonding area a frustum of a cone as taught by KURITA would not increase the bonding area. Instead, it is the outside peripheral bonding portion that increases the bonding area. Accordingly, a goal of increasing the bonding area by having a pointed tip would not have led the skilled artisan to make the proposed combination of the applied prior art.

Therefore, claims 17 and 23 and the claims that depend therefrom are believed to be allowable over the applied prior art.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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APPENDIX:

The Appendix includes the following items:

- replacement drawing sheets for Figures 1A-5